

## CONDUENT

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February 3, 2017
State House Commission
The Judicial Retirement System
of New Jersey
Trenton, New Jersey 08625
Members of the Commission:
The law governing the operation of the Judicial Retirement System of New Jersey provides for annual actuarial valuations of the System. The results of the July 1, 2016 valuation are submitted in this report, which also includes a comparison with the results of the July 1, 2015 valuation.

The valuation provides information concerning the financial condition of the Plan as of July 1, 2016, and sets forth the basis for determining the recommended annual contribution for the plan year beginning July 1, 2016.

The valuation reflects Chapter 78, P.L. 2011, which increases member contributions by 9\% of salary phasedin over a period of seven years, beginning October 2011. The increase in member contributions will be fully phased-in in July 2017.

As required under Section 32 of Chapter 89, P.L. 1965, experience studies are performed once in every three year period. The valuation was prepared using the demographic assumptions recommended on the basis of the July 1, 2011 - June 30, 2014 Experience Study and approved by the State House Commission on October 26, 2015. These assumptions will be reviewed in a June 30, 2017 experience study and will remain in effect for valuation purposes until such time as the State House Commission adopts revised demographic assumptions.

The Treasurer has recommended a change in the economic assumptions used for the valuation. The rate of investment return has been reduced from $7.90 \%$ per annum to $7.65 \%$ per annum. The assumed future salary increases of $2.50 \%$ per annum through fiscal year 2021 and $3.50 \%$ per annum for fiscal years 2022 and thereafter have been reduced to the $2.00 \%$ per annum through fiscal year 2025 and $3.00 \%$ per annum for fiscal years 2026 and thereafter. These assumptions will remain in effect for valuations purposes until such time the State House Commission or the Treasurer recommends revised assumptions.

In my opinion, the actuarial assumptions used are appropriate for purposes of the valuation and are reasonably related to the experience of the System and to reasonable long-term expectations. These assumptions were selected in accordance with applicable Actuarial Standards of Practice published by the Actuarial Standards Board.

The valuation reflects the actual fiscal year 2016 State contributions of $\$ 13,951,000$. The valuation also reflects the anticipated fiscal year 2017 State Pension Contribution of $\$ 17,662,708$. This amount may be subject to change per the requirements of the State's fiscal year 2017 spending plan.

Reporting requirements of Statements No. 67 and No. 68 are effective as of the June 30, 2014 and June 30, 2015 reporting dates, respectively. These requirements are addressed in separate reports.

## CONDUENT

The State of New Jersey's Division of Pensions and Benefits reported the individual data for members of the Judicial Retirement System of New Jersey as of the valuation date for use in the preparation of this report. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the Division of Pensions and Benefits. The accuracy of the results presented in this report is dependent on the accuracy of the data.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. Any Statements regarding funded ratios have no specific relevance to any funded position that might be determined in the event a settlement is contemplated. An analysis of the potential range of future results is beyond the scope of this valuation.

Use of this report for any other purpose or by anyone other than the State House Commission or staff of the State of New Jersey's Division of Pensions and Benefits may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. You should ask Conduent to review any statement you wish to make on the results contained in this report. Conduent will accept no liability for any such statement made without prior review by Conduent.

I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Qualification Standards of the Academy to render the actuarial opinions contained herein. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions concerning it.

The Table of Contents, which follows, highlights the Sections of the Report.
Respectfully submitted,


Aaron Shapiro, F.S.A., E.A., M.A.A.A.
Principal, Consulting Actuary
Conduent
AS/em

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## Section I - Summary of Key Results

The Judicial Retirement System of New Jersey became effective June 1, 1973. This report prepared as of July 1, 2016, presents the results of the annual actuarial valuation of the Fund.

For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized on the following pages.

| Valuation Date | July 1, 2016 |  | July 1, 2015 |  |
| :---: | :---: | :---: | :---: | :---: |
| Number of Members |  | 410 |  | 404 |
| Annual Compensation | \$ | 68,062,584 | \$ | 67,097,166 |
| Number of Pensioners and Beneficiaries |  | 605 |  | 586 |
| Annual Allowance | \$ | 55,093,264 | \$ | 52,965,770 |
| Number of Vested Terminated Members |  | 4 |  | 4 |
| Annual Allowances | \$ | 183,500 | \$ | 183,500 |
| Assets |  |  |  |  |
| Market Value of Assets | \$ | 196,407,352 ${ }^{1}$ | \$ | 225,712,843 |
| Valuation Assets | \$ | 226,310,119 ${ }^{1}$ | \$ | 243,864,022 |
| Contribution Rates |  |  |  |  |
| Recommended Contribution |  |  |  |  |
| Normal Contribution |  | 17.44 \% |  | 18.80 \% |
| Accrued Liability Contribution |  | 50.93 |  | 47.01 |
| Total Pension Contribution |  | 68.37 \% |  | 65.81 \% |
| Non-Contributory Group Insurance Premium |  | 1.02 \% |  | 0.97 \% |
| Contribution Amounts |  |  |  |  |
| Recommended Contribution |  |  |  |  |
| Normal Contribution | \$ | 11,866,873 | \$ | 12,612,089 |
| Accrued Liability Contribution |  | 34,665,070 |  | 31,544,682 |
| Total Pension Contribution | \$ | 46,531,943 | \$ | 44,156,771 |
| Non-Contributory Group Insurance Premium | \$ | 693,000 | \$ | 651,000 |

1 Reflects the State's fiscal year 2017 anticipated contribution of $\$ 17,662,708$ discounted one year. This amount is included as a receivable contribution but may be subject to change per the requirements of the State's fiscal year 2017 spending plan.

## Section I - Summary of Key Results (continued)

The major benefit and contribution provisions of the statute as reflected in the valuation are summarized in Appendix A.

The valuation reflects the State's fiscal year 2017 anticipated contribution of $\$ 17,662,708$ discounted one year. This amount is included as a receivable contribution but may be subject to change per the requirements of the State's fiscal year 2017 spending plan.

There were no changes to the benefit and contribution provisions.
The valuation reflects Chapter 78, P.L. 2011, which increased member contribution by $9 \%$ of salary phased-in over a period of seven years, beginning October 2011. The increase in member contributions will be fully phased-in in July 2017.

Effective June 30, 1996, Chapter 113, P.L. 1997 provided that the amount of compensation used for employer and member contributions and benefits under the program cannot exceed the compensation limitation of Section $401(\mathrm{a})(17)$ of the Internal Revenue Code. The compensation limit for the 2016 valuation is $\$ 265,000$. The compensation limit is assumed to increase annually at a rate of $3 \%$ per annum.

As required under Chapter 140, P.L. 1973 experience studies are preformed once in every three year period. The valuation was prepared using demographic assumptions recommended on the basis of the July 1, 2011June 30, 2014 Experience Study and approved by the State House Commission on October 26, 2015. The new assumptions are outlined in Appendix B.

The Treasurer has recommended a change in the economic assumptions used for the valuation. The rate of investment return has been revised from $7.90 \%$ per annum to $7.65 \%$ per annum. The assumed future salary increases of $2.50 \%$ per annum through fiscal year 2021 and $3.50 \%$ per annum for fiscal years 2022 and thereafter have been revised to be 2.00\% per annum through fiscal year 2025 and $3.00 \%$ per annum for fiscal years 2026 and thereafter. These assumptions will remain in effect for valuation purposes until such time the State House Commission or Treasurer recommends revised assumptions.

There were no other changes to the actuarial assumptions and methods from those used in the prior valuation. The actuarial assumptions and methods used in this valuation are summarized in Appendix B.

## Section I - Summary of Key Results (continued)

The valuation reflects the State's fiscal year 2017 anticipated contribution of $\$ 17,662,708$ discounted one year. This amount is included as a receivable contribution but may be subject to change per the requirements of the State's fiscal year 2017 spending plan.

The combination of the plan provisions, actuarial assumptions and member and beneficiary data is used to generate the overall required level of employer contributions. The recommended contribution is developed in Section III F. These contributions are composed of two separate portions, an "accrued liability contribution" and a "normal contribution".

The valuation generates a balance sheet which summarizes in some detail the total present and prospective assets and liabilities of the Fund. A summary comparison of the balance sheets as of July 1, 2015 and July 1, 2016 is set forth in the following table.

Table I

Comparative Balance Sheet


## Section II - Employee Data

The data employed for the valuation was furnished to the actuary by the Division of Pensions and Benefits. The following summarizes and compares the Fund membership as of July 1, 2015 and July 1, 2016 by various categores.

Active Membership

| Group | 2016 |  | 2015 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Number | Annual Compensation | Number | Annual Compensation |
| Men | 246 | \$ 40,829,942 | 253 | \$ 42,008,938 |
| Women | 164 | \$ 27,232,642 | 151 | \$ 25,088,228 |

## Retired Members and Beneficiaries

| Group | 2016 |  |  | 2015 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  | Annual Allowances | Number |  | Annual Allowances |
| Deferred Terminated Vesteds | 4 | \$ | 183,500 | 4 | \$ | 183,500 |
| Service Retirements | 438 | \$ | 45,779,171 | 427 | \$ | 44,201,394 |
| Disability Retirements | 7 | \$ | 818,564 | 7 | \$ | 818,564 |
| Beneficiaries | 160 | \$ | 8,495,529 | 152 | \$ | 7,945,812 |

Appendix C provides a detailed distribution between groups.
Graphic presentations of the statistical data on membership for the five preceding years are shown on the following pages.

The Judicial Retirement System Of New Jersey

Summary of Active Participants



## The Judicial Retirement System of New Jersey (continued)

## Summary of Retired Participants



## Section III - Assets, Liabilities and Contributions

A. Market Value of Assets as of June 30, 2016

1. Assets

| a. | Cash | $\$$ |
| :--- | :--- | ---: |
| b. | Securities Lending Collateral | 223,043 |
| c. | Investment Holdings | $3,272,055$ |
| d. | Interest Receivable on Investments | $182,357,733$ |
| e. | Employer Contribution Receivable - NCGI | 390 |
| f. | Members' Contributions Receivable | 149,725 |
| g. | Accounts Receivable | 350,324 |
| h. | Dividends Receivable | 888,102 |
| i. | Loans Receivable | 0 |
| j. | Interest Receivable - Member Loans | 775,888 |
| k. | Total | $\$$ |

2. Liabilities
a. Pension Payroll Payable
\$ 3,278,008
b. Pension Adjustment Payroll Payable 289,120
c. Withholdings Payable 984,307
d. Securities Lending Collateral and Rebates Payable 3,268,112
e. Accounts Payable - Other
48,168
f. Securities Purchased in Transit
0
g. Death Benefits Payable
\$ $\begin{array}{r}149,725 \\ , 017,440\end{array}$
3. Preliminary Market Value of Assets as of June 30, 2016:

1(k) - 2(h)
\$ 179,999,820
4. Discounted State Appropriations Receivable
\$ $16,407,532^{1}$
$\$ \quad 196,407,352^{2}$
5. Market Value of Assets as of June 30, 2016: 3. + 4.

708 discounted one requirements of the State's fiscal year 2017 spending plan.
${ }^{2}$ Excludes assets held in the Non-Contributory Group Insurance Fund.

## Section III - Assets, Liabilities and Contributions (continued)

B. Reconciliation of Market Value of Assets: June 30, 2015 to June 30, 2016

1. Market Value of Assets as of June 30, 2015 212,783,371
2. Increases
a. Pension Contributions

Members' Contributions \$ 6,676,397
Transfer from Other Systems 1,309,641
b. Accumulative Interest

Transfer from Other Systems 1,285,831
c. Employers' Contributions

State Appropriations 13,951,000
Non-Contributory Group Insurance 843,774
Transfer from Other Systems 726,284
Administrative Fee Loans 184
d. Income

Per Statement

$$
\begin{aligned}
& \$ \\
& \frac{(2,721,949)}{22,071,162}
\end{aligned}
$$

3. Decreases
a. Benefits Provided by Members

Withdrawals - Members' Contribution
Regular \$
\$ 0
Transfer 0
Withdrawals - Member Interest
Regular
0
Transfer 0
b. Benefits Provided by Employers and Members

Retirement Allowances 50,226,767
c. Benefits Provided by Employers

Benefit Expense - Pension Adjustment 3,615,980
Administrative Expense 168,064
Transfer Withdrawal - Employer Benefits 0
Administrative Expense Loans 128
NCGI Premium Expense $\quad 843,774$
d. Total
4. Preliminary Market Value of Assets
as of June 30, 2016: 1. +2.(e) - 3.(d)
5. Discounted State Appropriations Receivable
$\$ \quad 54,854,713$
4. Preliminary Market Value of Assets
\$ 179,999,820
$16,407,532^{1}$
6. Market Value of Assets as of June 30, $2016=$

$$
\text { 4. + } 5 .
$$

\$ 196,407,352 ${ }^{2}$
${ }^{1}$ Reflects the State's fiscal year 2017 anticipated contribution of $\$ 17,662,708$ discounted one year. This amount is included as a receivable contribution but may be subject to change per the requirements of the State's fiscal year 2017 spending plan.
${ }^{2}$ Excludes assets held in the Non-Contributory Group Insurance Fund.

## Section III - Assets, Liabilities and Contributions (continued)

## C. Development of Actuarial Value of Assets as of July 1, 2016

The actuarial value of plan assets is determined using a five-year average market value with write up. The following summary shows the development of the actuarial value of plan assets for the current valuation:

1. Actuarial Value of Assets July 1, 2015 (without State Appropriations Receivable)
\$ 230,934,550
2. Net Cash Flow excluding investment income
$(30,061,602)$
3. Expected Investment Income at 7.90\%
a. Interest on assets as of July 1, 2015:
b. Interest on Net Cash Flows
c. Total
$\begin{array}{r}18,243,829 \\ \$ \\ \hline 1,738,498) \\ \hline 16,505,331\end{array}$
4. Expected Actuarial Value of Assets as of July 1, 2016:
5. $+2 .+3$.(c)

217,378,279
5. $20 \%$ of Difference from Preliminary Market Value of Assets
6. Discounted State Appropriations Receivable
$\frac{16,407,532}{26,310,119} \quad 2$
7. Actuarial Value of Assets as of July 1, 2016 = 4. + 5. + 6. $\$ \overline{226,310,119} 2$
${ }^{1}$ Reflects the State's fiscal year 2017 anticipated contribution of $\$ 17,662,708$ discounted one year. This amount is included as a receivable contribution but may be subject to change per the requirements of the State's fiscal year 2017 spending plan.
${ }^{2}$ Excludes assets held in the Non-Contributory Group Insurance Fund.
D. Accrued Liabilities as of July 1, 2016

1. Retirees and Beneficiaries
a. Service Retirement
\$ 399,803,843
b. Disability Retirements
5,985,223
c. Beneficiaries
$\$ \quad \begin{array}{r}54,509,451 \\ \end{array}$
d. Total
2. Terminated Vested Members
$\$ \quad 1,754,306$
3. Active Participants

| a. Service Retirement | $\$$ | $157,891,090$ |  |
| :--- | :--- | ---: | ---: |
| b. | Disability Retirement |  | $5,691,852$ |
| c. | Spousal Annuity Death Benefit |  | $4,175,047$ |
| d. | Total | $\$$ | $167,757,989$ |

4. Total Accrued Liability ${ }^{1}=1 .(\mathrm{d})+2 .+3 .(\mathrm{d})$.
\$ 629,810,812
${ }^{1}$ Excludes lump sum death benefits payable from the Non-Contributory Group Insurance Premium Fund

## Section III - Assets, Liabilities and Contributions (continued)

E. Development of Normal Cost as of July 1, 2016

1. Service Retirements
\$
15,107,320
2. Disability Retirement 990,101
3. Spousal Annuity Death Benefit
$1,851,377$
4. Total Pension Normal Cost ${ }^{1}$ $=1+2+3$
\$ 17,948,798
${ }^{1}$ Excludes lump sum death benefits payable from the Non-Contributory Group Insurance Premium Fund
F. Development of Recommended State Pension Contributions
5. Accrued Liability
6. Actuarial Value of Assets
7. Unfunded Actuarial Accrued Liability/(Surplus) $=1 .-2$.
8. Amortization Period
9. Amortization of Unfunded Actuarial Accrued Liability payable July 1, 2017 (Level Dollar)
10. a. Gross Normal Cost (excluding Non-

Contributory Group Insurance Premium)
b. Expected Member Contributions
c. State Normal Cost =(a)-(b)
d. State Normal Cost payable July 1, 2017 $=(\mathrm{c})$ * 1.0765
7. Total Recommended Pension Contribution as of July 1, $2017=5 .+6$.(d)
G. Non-Contributory Group Insurance Premium (One-Year Term Cost)
\$ 629,810,812
226,310,119
\$ 403,500,693
$34,665,070$

## Section IV - Comments Concerning the Valuation

The variation in liabilities and contributions reflects the System's actual experience during the year. The System experienced a net actuarial loss during the year that ended June 30, 2016

The System experienced a net liability loss among active and retired members. There was also a loss due to an actual return on System assets less than expected. For valuation purposes, a $7.90 \%$ per annum rate or return was assumed for the period July 1, 2015 through June 30, 2016. The actual return on the Fund's actuarial value of assets was $4.18 \%$ for this period.

The following shows the development of the actuarial experience and identifies the major experience components, and discusses the impact of the unfunded liability on various funded ratios:
A. Calculation of Actuarial Experience for the Year Ended June 30, 2016.

1. Unfunded Accrued Liability as of July 1, 2015
\$
$358,500,178$
2. Gross Normal Cost as of July 1, 2015 $17,574,257$
3. Interest on (1) and (2) at 7.90\% 29,709,880
4. Actual Members' Contributions Received 6,676,397
5. Employers' Contributions (including discounted receivable) 16,407,532
6. Interest on Contributions (excluding receivables) at 7.90\% 258,705
7. Expected Unfunded Accrued Liability/(Surplus) as of July $1,2016=(1)+(2)+(3)-(4)-(5)-(6)$
\$ 382,441,681
8. Change in Unfunded Accrued Liability due to the revised fiscal year 2016 State contribution ${ }^{1}$
9. Change in Unfunded Accrued Liability due to assumption changes

7,095,990
10. Actual Unfunded Accrued Liability as of July 1, 2016

403,500,693
11. Actuarial (Gain)/Loss $=(10)-(7)-(8)-(9)$
${ }^{1}$ The anticipated fiscal year 2016 contribution of $\$ 13,950,900$ has been increased to $\$ 13,951,000$
to reflect the actual State contribution made during fiscal year 2016 .
B. Components of Actuarial Experience

1. Investment (Gain)/Loss
\$ 7,475,692
2. Other (Gain)/Loss, including mortality, changes in employee data and salary increases different than expected

6,487,430
3. Total Actuarial (Gain)/Loss
\$
$13,963,122$

## Section IV - Comments Concerning the Valuation (continued)

## C. Funded Ratios

The following table presents the System's funded ratios based on the actuarial value of assets (including receivables) and market value basis (including receivables)

|  | June 30, 2016 | June 30, 2015 | Change |
| :---: | ---: | ---: | :---: |
| Actuarial Value of Assets |  |  |  |
| Market Value of Assets | $35.9 \%$ | $40.5 \%$ | $(4.6) \%$ |

${ }^{1}$ Statutory funded ratio.
The System's statutory funded ratio is $40.5 \%$ and $35.9 \%$ as of June 30, 2015 and June 30, 2016, respectively. For purposes of Chapter 78, P.L. 2011, the "target funded ratio" is $78.570 \%$ and $79.285 \%$ for June 30, 2015 and June 30, 2016 respectively. Therefore, the System's statutory funded ratio fell below the "target funded ratio" for June 30, 2015 and the "target funded ratio" for June 30, 2016.

There is a difference on a market value basis since the actuarial value smooths the investment gains and losses over time. Since July 1, 2000, the funded ratio on a market value basis has decreased by $87.8 \%$ This decrease is primarily due to investment losses experienced over the period, State contributions less than the statutorily determined amounts, and the strengthening of actuarial assumptions.

As of June 30, 2016, the market value of assets is less than the actuarial liability attributable to retirees Furthermore, if the assets contained in the Annuity Savings Fund (ASF) of \$60,940,480 are excluded, the funded ratio of the remaining market value of assets to the actuarial accrued liability for retirees is $29.4 \%$.

As of June 30, 2016, the ratio of market value of assets to the prior year's benefit payment is 3.6. This is a simplistic measure of the number of years that the assets can cover benefit payments, excluding: future increases in those payments, State and member contributions, and investment income. This ratio decreased by $16 \%$ from the previous year's ratio of 4.3. If ASF assets are excluded, since they represent accumulated contributions from active and inactive members, the ratio is 2.5.

## Section IV - Comments Concerning the Valuation (continued)

## D. Schedule of Assets and Liability

The following presents a ten-year schedule of the System's assets, liabilities and funded ratio. The System's assets and funded ratio are provided on a market value (including receivables) basis and actuarial value of assets (including receivables) basis.

| Actuarial Valuation Date | Market Value of Assets ${ }^{1}$ <br> (a) |  | Actuarial Value of Assets ${ }^{1}$ (b) |  | Actuarial Accrued Liability (c) |  | Funded Ratio |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Market Value (a)/(c) | Actuarial Value <br> (b)/(c) |  |  |
| 7/1/2016 | \$ | 196,407,352 |  |  | \$ | 226,310,119 | \$ | 629,810,812 | 31.19\% | 35.93\% |
| 7/1/2015 | \$ | 225,712,843 | \$ | 243,864,022 | \$ | 602,364,200 | 37.47\% | 40.48\% |
| 7/1/2014 | \$ | 244,567,822 | \$ | 258,101,497 | \$ | 632,679,937 | 38.66\% | 40.79\% |
| 7/1/2013 | \$ | 244,280,889 | \$ | 276,966,331 | \$ | 620,376,292 | 39.38\% | 44.64\% |
| 7/1/2012 | \$ | 243,679,037 | \$ | 290,191,842 | \$ | 605,180,634 | 40.27\% | 47.95\% |
| 7/1/2011 | \$ | 270,183,306 | \$ | 310,724,782 | \$ | 585,700,787 | 46.13\% | 53.05\% |
| 7/1/2010 | \$ | 261,523,992 | \$ | 329,030,387 | \$ | 554,540,403 | 47.16\% | 59.33\% |
| 7/1/2009 | \$ | 261,751,336 | \$ | 355,522,646 | \$ | 594,043,375 | 44.06\% | 59.85\% |
| 7/1/2008 | \$ | 352,989,790 | \$ | 383,958,713 | \$ | 553,284,647 | 63.80\% | 69.40\% |
| 7/1/2007 | \$ | 384,497,896 | \$ | 391,321,393 | \$ | 524,970,330 | 73.24\% | 74.54\% |

1. The information in the above table has been taken directly from the final valuation reports for each plan year and does not reflect subsequent changes in actual employer contribution amounts from the reported receivable contribution after the valuation reports were issued.

## E. Schedule of Employer Pension Contributions

The following table presents a ten-year schedule that provides information about the System's actuarially determined contribution and the percentage of the actuarially determined contribution recognized by the System as contributed.

| Fiscal Year Ending June 30 | Actuarially Determined Contribution ${ }^{1}$ (a) |  | Actual <br> Pension Contribution <br> (b) |  | Contribution Deficiency <br> (a) - (b) |  | Percentage of Contribution Made |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Annual <br> (b)/(a) | Five-Year Average |  |  |
| 2017 | \$ | 44,156,771 |  |  | \$ | 17,662,708 | \$ | 26,494,063 | 40.00\% | 34.28\% |
| 2016 | \$ | 46,502,819 | \$ | 13,951,000 | \$ | 32,551,819 | 30.00\% | 29.14\% |
| 2015 | \$ | 44,334,504 | \$ | 16,506,000 | \$ | 27,828,504 | 37.23\% | 23.14\% |
| 2014 | \$ | 43,050,167 | \$ | 15,334,000 | \$ | 27,716,167 | 35.62\% | 15.70\% |
| 2013 | \$ | 40,751,804 | \$ | 11,643,000 | \$ | 29,108,804 | 28.57\% | 9.46\% |
| 2012 | \$ | 38,352,572 | \$ | 5,479,000 | \$ | 32,873,572 | 14.29\% | 13.75\% |
| 2011 | \$ | 34,653,737 | \$ | 0 | \$ | 34,653,737 | 0.00\% | 22.26\% |
| 2010 | \$ | 28,857,945 | \$ | 0 | \$ | 28,857,945 | 0.00\% | 29.48\% |
| 2009 | \$ | 26,089,212 | \$ | 1,157,000 | \$ | 24,932,212 | 4.43\% |  |
| 2008 | \$ | 23,907,860 | \$ | 11,957,000 | \$ | 11,950,860 | 50.01\% |  |

1. The information in the above tables has been taken directly from the final valuation reports for each plan year and does not reflect subsequent changes in actual employer contribution amounts from the reported receivable contribution after the valuation reports were issued.

## Section V - Level of Funding

The tables below present the liabilities determined on a Financial Accounting Standards Board ASC 715 (formerly Statement No. 87) Accumulated Benefit Obligation (ABO) basis. This is the same approach as was used under GASB Statement No. 5 except that no assumption is made as to future salary increases and assets are at market value with receivables

## ASC 715 ABO Funded Ratios

| Actuarial present value of accumulated <br> benefits: |  | June 30, 2016 |  |
| :--- | :--- | :--- | :--- | June 30, 2015

1. Assets at market value do not include any receivable contributions.

The actuarial present value of vested and non-vested accrued benefits was based on an interest rate of $7.65 \%$ for 2016 and $7.90 \%$ for 2015.

## Appendix A

## Brief Summary of the Benefit and Contribution Provisions as Interpreted for Valuation Purposes

## Eligibility for Membership

Chief Justice and associate justices of the Supreme Court, judges of the Superior Court and tax courts of the State of New Jersey.

## 1. Definitions

Plan Year
The 12-month period beginning on July 1 and ending on June 30.

## Service

A year is credited for each year of service as a public employee in the State of New Jersey. Any service, for which member did not receive annual salary of at least $\$ 500$, shall be excluded

## Final Salary

Annual salary received by the member at the time of retirement or other termination of service. (Effective June 30, 1996, Chapter 113, P.L. 1997 provided that the amount of compensation used for employer and member contributions and benefits under the program cannot exceed the compensation limitation of Section 401(a)(17) of the Internal Revenue Code.)

## Accumulated Deductions

The sum of all amounts deducted from the compensation of a member or contributed by him or on his behalf.

## Retirement Allowance

Pension derived from contributions of the State plus the annuity derived from employee contributions.

## 2. Benefits

## Service Retirement

A. Mandatory retirement at age 70. Voluntary retirement prior to age 70 as follows:
i. Age 70 and 10 years of judicial service;
ii. Age 65 and 15 years of judicial service; or
iii. Age 60 and 20 years of judicial service.

Benefit is an annual retirement allowance equal to $75 \%$ of final salary.
B. Age 65 while serving as a judge, 5 consecutive years of judicial service and 15 years in the aggregated of public service; or

Age 60 while serving as a judge, 5 consecutive years of judicial service and 20 years in the aggregated of public service.

Benefit is an annual retirement allowance equal to $50 \%$ of final salary.
C. Age 60 while serving as a judge, 5 consecutive years of judicial service and 15 years in the aggregate of public service. Benefit is an annual retirement allowance equal to $2 \%$ of final salary

## Appendix A (continued)

for each year of public service up to 25 years plus $1 \%$ of final salary for each year in excess of 25 years.
D. Age 60 while serving as a judge. Benefit is an annual retirement allowance equal to $2 \%$ of final salary for each year of judicial service up to 25 years plus $1 \%$ for each year in excess of 25 years.

## Early Retirement

Prior to age 60 while serving as a judge, 5 consecutive years of judicial service and 25 or more years in the aggregate of public service. Benefit is an annual retirement allowance equal to $2 \%$ of final salary for each year of public service up to 25 years plus $1 \%$ of final salary for each year of public service in excess of 25 years, actuarially reduced for commencement prior to age 60.

## Vested Termination

Termination of service prior to age 60, with 5 consecutive years of judicial service and 10 years in the aggregate of public service. Benefit is a refund of accumulated deductions, or a deferred life annuity beginning at age 60 equal to $2 \%$ of final salary for each year of public service up to 25 years, plus $1 \%$ for service in excess of 25 years.

## Death Benefits

## Before Retirement

Death of an active member of the plan. Benefit is equal to:
A. Lump sum payment equal to 1-1/2 times compensation, plus
B. Spousal life annuity of $25 \%$ of final salary payable until spouse's remarriage plus $10 \%$ (15\%) to one (two or more) dependent child (children). If there is no surviving spouse, or upon death or remarriage, a total of $15 \%(20 \%, 30 \%)$ of final salary payable to one (two, three or more) dependent child (children). If there is no surviving spouse (or dependent children), $20 \%$ or $30 \%$ of final salary to one or two dependent parents.

## After Retirement

Death of a retired member of the plan. The benefit is equal to:
A. Lump sum of $25 \%$ of final salary for a member retired under normal or early retirement. If a member were receiving a disability benefit, a lump sum 1-1/2 times final salary if death occurred before the member attained age 60 and 1/4 times final salary if death occurred after age 60, plus
B. Spousal life annuity of $25 \%$ of final salary payable until spouse's remarriage plus $10 \%$ (15\%) to one (two or more) dependent child (children). If there is no surviving spouse, or upon death or remarriage, a total of $15 \%(20 \%, 30 \%)$ of final salary payable to one (two, three or more) dependent child (children).

## Disability Retirement

Physically or otherwise incapacitated for the full and efficient service to State in his judicial capacity and such incapacity is likely to be permanent. Benefit is an annual retirement allowance of $75 \%$ of final salary.

## Appendix A (continued)

## Member Contributions

Any member enrolled prior to January 1, 1996 contributes $3 \%$ of the difference between current salary and salary for the position of January 18, 1982. Members enrolled on and after January 1, 1996 contribute 3\% of their full salary.

Chapter 78, P.L. 2011 increases Member Contributions by $9 \%$ of salary phased-in over a period of seven years beginning October 2011. (The additional $9 \%$ of salary will be fully phased-in in July 2017.)
A. For members enrolled prior to January 1, 1996:
i. Member Contributions of $9 \%$ (phased-in over a period of seven years beginning October 2011) of the salary for that position on January 18, 1982.
ii. Member Contributions increased from $3 \%$ to $12 \%$ (phased-in over a period of seven years beginning October 2011) of the difference between current salary and salary for that position on January 18, 1982.

Benefit is an annual retirement allowance equal to $75 \%$ of final salary.
B. For members enrolled on or after January 1, 1996, Member Contributions increased from 3\% to $12 \%$ of full salary phased-in over a period of seven years beginning October 2011.

## Appendix B

## Outline of Actuarial Assumptions and Methods

Valuation Interest Rate
7.65\% per annum, compounded annually.

## COLA

No future COLA is assumed.

## Salary Increases

Salaries are assumed to increase by 2.00\% per year through fiscal year 2025 and $3.00 \%$ per year for fiscal years 2026 and thereafter.

401(a)(17) Pay Limit
$\$ 265,000$ for 2016 increasing $3.00 \%$ per annum, compounded annually.

## Separations from Service

Representative mortality and disability rates are as follows:

| Age | Lives per Thousand |  |  |
| :---: | :---: | :---: | :---: |
|  | Death ${ }^{1}$ |  | Disability |
|  | Male | Female |  |
| 30 | 0.43 | 0.38 | 0.22 |
| 35 | 0.74 | 0.58 | 0.26 |
| 40 | 1.04 | 0.90 | 0.33 |
| 45 | 1.45 | 1.38 | 0.64 |
| 50 | 2.06 | 2.12 | 1.14 |
| 55 | 3.49 | 3.68 | 1.97 |
| 60 | 6.16 | 6.71 | 3.26 |
| 65 | 10.89 | 11.49 | 4.73 |

1. RP-2000 Combined Healthy Male and RP-2000 Combined Healthy Female Mortality Tables (unadjusted for males and set forward 3 years for females) projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB for the base tables. The base tables are projected beyond the base year using the Buck Modified 2014 Projection scale. The above rates are unadjusted for the Buck Modified 2014 Projection Scale.

## Deaths after Retirement

RP-2000 Combined Heathy Mortality Tables (unadjusted for males and set forward 3 years for females) for service retirement and beneficiaries of former member projected on a generational basis from the base year of 2000 to 2013 using Projection Scale BB for the base tables. The base tables are projected beyond the base year using the Buck Modified 2014 Projection scale. The RP-2000 Disability Mortality Tables (set forward 2 years for males and females) are used to value disabled retirees. Representative values of the annual rates of mortality unadjusted for the Buck Modified 2014 Projection Scale are as follows:

## Appendix B (continued)

|  | Retives Per Thousand <br> Deceased Members |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Disabled Members |  |

Retirement

| Age | Age 60 with 20 Years Judicial Service or Age 65 with 15 Years Judicial Service | After Age 59 with Less than 12 Years Judicial Service | After Age 59 with 12 or More Years Judicial Service (but have not attained 60/20JS or 65/15JS) | Prior to age 60 with 5 Years Judicial Service and 25 Years Public Service |
| :---: | :---: | :---: | :---: | :---: |
| 50 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 51 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 52 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 53 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 54 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 55 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 56 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 57 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 58 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 59 | 0.00000 | 0.00000 | 0.00000 | 0.00000 |
| 60 | 0.30000 | 0.02500 | 0.00000 | 0.00000 |
| 61 | 0.20000 | 0.02500 | 0.00000 | 0.00000 |
| 62 | 0.20000 | 0.02500 | 0.00000 | 0.00000 |
| 63 | 0.30000 | 0.02500 | 0.00000 | 0.00000 |
| 64 | 0.30000 | 0.02500 | 0.00000 | 0.00000 |
| 65 | 0.37500 | 0.02500 | 0.10000 | 0.00000 |
| 66 | 0.24000 | 0.02500 | 0.00000 | 0.00000 |
| 67 | 0.24000 | 0.02500 | 0.00000 | 0.00000 |
| 68 | 0.24000 | 0.02500 | 0.00000 | 0.00000 |
| 69 | 0.24000 | 0.02500 | 0.00000 | 0.00000 |

## Valuation Method

Husbands are assumed to be 3 years older than wives. Among the active population, $90 \%$ of participants are assumed married. No children are assumed. Neither the percentage married nor the number of children assumption is individually explicit are considered reasonable as a single combined assumption.

## Appendix B (continued)

## Valuation Method

Projected Unit Credit Method. This method essentially funds the System's benefits accrued to the valuation date. Experience gains and losses are recognized in future accrued liability contributions. In accordance with Chapter 78, P.L. 2011, beginning with the July 1, 2010 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars, it will amortize the unfunded accrued liability over an open 30 year period. Beginning with the July 1, 2019 actuarial valuation, the accrued liability contribution shall be computed so that if the contribution is paid annually in level dollars it will amortize the unfunded accrued liability over a closed 30 year period (i.e., for each subsequent valuation, the amortization period shall decrease by one year.) Beginning with the July 1, 2029 actuarial valuation, when the remaining amortization period reaches 20 years, any increase or decrease in the unfunded accrued liability as a result of actuarial losses or gains for subsequent valuation years shall serve to increase or decrease, respectively, the amortization period for the unfunded accrued liability, unless an increase in the amortization period will cause it to exceed 20 years. If an increase in the amortization period as a result of actuarial losses for a valuation year would exceed 20 years, the accrued liability contribution shall be computed for the valuation year using a 20 year amortization period.

## Receivable Contributions

State contributions expected to be paid the June 30th following the valuation date are discounted by the valuation interest rate of $7.65 \%$ to the valuation date.

## Asset Valuation Method

A five-year average of market values with write-up was used. (This method takes into account appreciation (depreciation) in investments in order to smooth asset values by averaging the excess of the actual over the expected income, on a market value basis, over a five-year period).

## Summary of Changes from July 1, 2015 Valuation

The rate of investment return has been reduced from $7.90 \%$ per annum to $7.65 \%$ per annum. The assumed future salary increases of $2.50 \%$ per annum through fiscal year 2021 and $3.50 \%$ per annum for fiscal years 2022 and thereafter have been reduced by $0.5 \%$ at all ages for both the select and ultimate periods. In addition the select period was extended through fiscal year 2025. The impact of the assumption changes is shown in Section IV A which indicates an increase in the accrued liability of $\$ 7,095,990$ due to these assumption changes.

## Appendix C

Tabulations Used as a Basis for the 2016 Valuation
The following tables give a reconciliation of data from July 1, 2015 to June 30, 2016. Tables are also given showing active member number and salaries by age and length of service as of July 1, 2016 and showing the number and retirement allowances of beneficiaries classified by age as of July $1,2016$.
Table 1
Reconciliation of Data from July 1, 2015 to June 30, 2016

|  | Actives |  | Deferred Vested | Retirees |  |  |  | Beneficiaries | Dependents | Domestic Relations Beneficiaries | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Contrib. | Noncontrib. |  | Service | Special | Deferred | Disabled |  |  |  |  |
| Members as of July $1,2015$ | 402 | 2 | 4 | 409 | 3 | 4 | 7 | 148 | 4 | 11 | 994 |
| Changed to Contributing | 1 | (1) |  |  |  |  |  |  |  |  |  |
| Changed to Noncontributing |  |  |  |  |  |  |  |  |  |  |  |
| Terminated Vested |  |  |  |  |  |  |  |  |  |  |  |
| Terminated NonVested |  | (1) |  |  |  |  |  |  |  |  | (1) |
| Service Retirement | (24) |  |  | 24 |  |  |  |  |  |  |  |
| Special Retirement |  |  |  |  |  |  |  |  |  |  |  |
| Deferred Vesteds Now Payable |  |  |  |  |  |  |  |  |  |  |  |
| New Disabled |  |  |  |  |  |  |  |  |  |  |  |
| New Death | (2) |  |  | (15) |  |  |  | (7) |  |  | (24) |
| New Beneficiaries |  |  |  |  |  |  |  | 15 |  | 1 | 16 |
| Payments Ceased |  |  |  |  |  |  |  |  |  |  |  |
| Lump sum |  |  |  |  |  |  |  |  |  |  |  |
| New Actives | 33 |  |  |  |  |  |  |  |  |  | 33 |
| Rehires |  |  |  |  |  |  |  |  |  |  |  |
| Data Corrections |  |  |  | 1 |  |  |  |  |  |  | 1 |
| Members as of June 30, 2016 | 410 | 0 | 4 | 419 | 3 | 4 | 7 | 156 | 4 | 12 | 1,019 |

## Appendix C (continued)

## Table 2

Distribution Of Active Members By Age and Service

| Age | Service | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20 | Number Salary |  |  |  |  |  |  |  |  |  |
| 25 | Number Salary |  |  |  |  |  |  |  |  |  |
| 30 | Number Salary |  |  |  |  |  |  |  |  |  |
| 35 | Number Salary |  |  |  |  |  |  |  |  |  |
| 40 | Number Salary | $\begin{array}{r} 2 \\ 330,000 \end{array}$ |  |  |  |  |  |  |  | $\begin{array}{r} 2 \\ 330,000 \end{array}$ |
| 45 | Number Salary | $\begin{array}{r} 15 \\ 2,475,000 \end{array}$ | $\begin{array}{r} 10 \\ 1,650,000 \end{array}$ | $\begin{array}{r} 1 \\ 165,000 \end{array}$ |  |  |  |  |  | $\begin{array}{r} 26 \\ 4,290,000 \end{array}$ |
| 50 | Number Salary | $\begin{array}{r} 18 \\ 2,970,000 \end{array}$ | $\begin{array}{r} 22 \\ 3,630,000 \end{array}$ | $\begin{array}{r} 8 \\ 1,320,000 \end{array}$ | $\begin{array}{r} 1 \\ 165,000 \\ \hline \end{array}$ |  |  |  |  | $\begin{array}{r} 49 \\ 8,085,000 \end{array}$ |
| 55 | Number Salary | $\begin{array}{r} 19 \\ 3,135,000 \end{array}$ | $\begin{array}{r} 32 \\ 5,300,482 \end{array}$ | $\begin{array}{r} 23 \\ 3,843,863 \end{array}$ | $\begin{array}{r} 11 \\ 1,821,731 \end{array}$ |  |  |  |  | $\begin{array}{r} 85 \\ 14,101,076 \end{array}$ |
| 60 | Number Salary | 21 21 | 25 2 | 27 $4,482,799$ | 27 | 13 $2,162,265$ | $\begin{array}{r} 3 \\ 512,265 \end{array}$ |  |  | $\begin{array}{r} 116 \\ 19,250,610 \end{array}$ |
| 63 | Number Salary | $\begin{array}{r} 5 \\ 825,000 \end{array}$ | $\begin{array}{r} 20 \\ 3,300,000 \end{array}$ | $\begin{array}{r} 10 \\ 1,667,265 \end{array}$ | $\begin{array}{r} 22 \\ 3,688,815 \end{array}$ | $\begin{array}{r} 7 \\ 1,186,602 \end{array}$ | $\begin{array}{r} 4 \\ 681,068 \end{array}$ |  |  | $\begin{array}{r} 68 \\ 11,348,750 \end{array}$ |
| 66 and over | Number Salary | $\begin{array}{r} 3 \\ 515,482 \end{array}$ | $\begin{array}{r} 15 \\ 2,475,000 \end{array}$ | $\begin{array}{r} 21 \\ 3,486,068 \end{array}$ | 13 $2,166,068$ | r $\begin{array}{r}1 \\ 165,000\end{array}$ | 10 $1,673,996$ | 1 175,534 |  | $\begin{array}{r} 64 \\ 10,657,148 \end{array}$ |
| Total | Number Salary | $\begin{array}{r} 83 \\ 13,715,482 \\ \hline \end{array}$ | 20,491,016 | [ 90 | [12,334,361 | r 21 | 17 $2,867,329$ | 1 175,534 |  | [410 |

## Appendix C (continued)

## Table 3

The Number And Annual Compensation Of
Active Members Distributed By Age
As Of June 30, 2016

| Age | Men |  |  | Women |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Amount |  | Number | Amount |  |
| 42 | 2 | \$ | 330,000 |  |  |  |
| 43 | 2 |  | 330,000 |  |  |  |
| 44 | 1 |  | 165,000 | 2 | \$ | 330,000 |
| 45 | 2 |  | 330,000 | 1 |  | 165,000 |
| 46 | 2 |  | 330,000 | 5 |  | 825,000 |
| 47 | 5 |  | 825,000 | 6 |  | 990,000 |
| 48 | 4 |  | 660,000 | 2 |  | 330,000 |
| 49 | 4 |  | 660,000 | 5 |  | 825,000 |
| 50 | 6 |  | 990,000 | 2 |  | 330,000 |
| 51 | 4 |  | 660,000 | 6 |  | 990,000 |
| 52 | 10 |  | 1,650,000 | 6 |  | 990,000 |
| 53 | 4 |  | 660,000 | 5 |  | 825,000 |
| 54 | 10 |  | 1,650,000 | 12 |  | 1,980,000 |
| 55 | 4 |  | 660,000 | 9 |  | 1,485,000 |
| 56 | 18 |  | 3,008,329 | 8 |  | 1,320,000 |
| 57 | 8 |  | 1,320,000 | 7 |  | 1,192,747 |
| 58 | 15 |  | 2,485,534 | 10 |  | 1,650,000 |
| 59 | 14 |  | 2,320,534 | 4 |  | 660,000 |
| 60 | 10 |  | 1,667,265 | 12 |  | 1,986,731 |
| 61 | 12 |  | 1,980,000 | 15 |  | 2,485,534 |
| 62 | 17 |  | 2,832,799 | 7 |  | 1,182,213 |
| 63 | 16 |  | 2,661,068 | 11 |  | 1,842,799 |
| 64 | 18 |  | 3,007,747 | 10 |  | 1,660,534 |
| 65 | 12 |  | 2,011,602 | 1 |  | 165,000 |
| 66 | 7 |  | 1,165,534 | 9 |  | 1,516,016 |
| 67 | 11 |  | 1,821,731 | 3 |  | 505,534 |
| 68 | 14 |  | 2,316,731 | 3 |  | 495,000 |
| 69 | 10 |  | 1,660,534 | 3 |  | 505,534 |
| 70 | 4 |  | 670,534 |  |  |  |
|  |  |  |  |  |  |  |
| Total | 246 | \$ | 40,829,942 | 164 | \$ | 27,232,642 |

Of the 410 active members included in the June 30, 2016 valuation data, 272 are vested and 138 have not yet completed the vesting service requirement.

## Appendix C (continued)

Table 4

The Number And Annual Compensation Of
Active Members Distributed By Service
As Of June 30, 2016

| Years Of Service | Men |  |  | Women |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Amount |  | Number | Amount |  |
| 0 | 2 | \$ | 330,000 | 6 | \$ | 1,010,482 |
| 1 | 15 |  | 2,475,000 | 24 |  | 3,960,000 |
| 2 | 10 |  | 1,650,000 | 25 |  | 4,125,000 |
| 3 | 15 |  | 2,475,000 | 9 |  | 1,485,000 |
| 4 | 12 |  | 1,980,000 | 6 |  | 990,000 |
| 5 | 17 |  | 2,815,534 | 12 |  | 2,000,482 |
| 6 | 16 |  | 2,640,000 | 6 |  | 990,000 |
| 7 | 20 |  | 3,300,000 | 10 |  | 1,650,000 |
| 8 | 19 |  | 3,135,000 | 8 |  | 1,320,000 |
| 9 | 13 |  | 2,183,329 | 5 |  | 825,000 |
| 10 | 8 |  | 1,330,534 | 1 |  | 165,000 |
| 11 | 15 |  | 2,485,534 | 5 |  | 835,534 |
| 12 | 12 |  | 2,014,530 | 3 |  | 495,000 |
| 13 | 9 |  | 1,506,068 | 6 |  | 990,000 |
| 14 | 15 |  | 2,512,747 | 4 |  | 670,534 |
| 15 | 17 |  | 2,815,534 | 6 |  | 990,000 |
| 16 | 5 |  | 825,000 | 5 |  | 858,944 |
| 17 | 5 |  | 835,534 | 2 |  | 330,000 |
| 18 | 5 |  | 835,534 | 3 |  | 505,534 |
| 19 | 6 |  | 1,000,534 | 4 |  | 681,068 |
| 20 |  |  |  | 1 |  | 165,000 |
| 21 | 2 |  | 330,000 | 2 |  | 336,731 |
| 22 |  |  |  | 1 |  | 165,000 |
| 23 | 2 |  | 340,534 | 3 |  | 505,534 |
| 24 | 2 |  | 340,534 | 2 |  | 330,000 |
| 25 | 2 |  | 336,731 | 2 |  | 336,731 |
| 26 | 1 |  | 171,731 |  |  |  |
| 27 | 1 |  | 165,000 | 2 |  | 340,534 |
| 29 |  |  |  | 1 |  | 175,534 |
|  |  |  |  |  |  |  |
| Total | 246 | \$ | 40,829,942 | 164 | \$ | 27,232,642 |

Of the 410 active members included in the June 30, 2016 valuation data, 272 are vested and 138 have not yet completed the vesting service requirement.

## Appendix C (continued)

Table 5

Average Age and Annual Benefit at Retirement

|  | Service Retirement |  | Disability Retirement |  | Survivors |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Average Age At Retirement | Average Annual Benefit At Retirement ${ }^{1}$ | Average Age At Retirement | Average Annual Benefit At Retirement ${ }^{1}$ | Average Age At Retirement ${ }^{2}$ | Average Annual Benefit At Retirement |
| All Retirees | 66.0 | \$ 98,230 | 61.6 | \$ 110,798 | 59.0 | \$ 48,210 |
| New Retirees | 66.0 | \$ 107,499 | N/A | N/A | 62.0 | \$ 55,804 |


| All Retirements <br> (excluding Survivors) |  |  |
| :--- | :---: | :---: | :---: |
|  |  |  |
| Average Age At |  |  |
| Retirement |  |  |$\quad$| Average Annual Benefit |
| :---: |
| At Retirement |

${ }^{1}$ The Average Annual Benefit at Retirement does not reflect COLA's granted after retirement.
${ }^{2}$ Calculated as of Member's Date of Retirement

## Appendix C (continued)

Table 6
The Number And Annual Retirement
Allowances Of Retired Members Distributed
By Age As Of June 30, 2016
Service Retirements

| Age | Men |  |  | Women |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  | Amount | Number |  |  |
| 59 |  |  |  | 1 | \$ | 12,375 |
| 60 | 1 | \$ | 115,706 |  |  |  |
| 61 |  |  |  | 1 |  | 39,432 |
| 62 | 2 |  | 233,888 | 2 |  | 189,281 |
| 63 | 2 |  | 199,155 | 2 |  | 229,448 |
| 64 | 3 |  | 339,254 | 1 |  | 131,651 |
| 65 | 6 |  | 645,843 | 2 |  | 170,644 |
| 66 | 12 |  | 1,394,894 | 2 |  | 173,679 |
| 67 | 8 |  | 922,052 | 10 |  | 1,194,527 |
| 68 | 15 |  | 1,723,504 | 4 |  | 338,757 |
| 69 | 17 |  | 1,893,172 | 3 |  | 241,321 |
| 70 | 11 |  | 1,130,265 | 4 |  | 386,363 |
| 71 | 27 |  | 3,001,483 | 7 |  | 761,503 |
| 72 | 23 |  | 2,517,009 | 3 |  | 364,196 |
| 73 | 19 |  | 2,090,220 | 5 |  | 385,537 |
| 74 | 21 |  | 2,380,139 | 6 |  | 684,618 |
| 75 | 21 |  | 2,283,439 | 1 |  | 117,925 |
| 76 | 15 |  | 1,657,258 | 1 |  | 123,750 |
| 77 | 15 |  | 1,503,064 | 1 |  | 46,212 |
| 78 | 10 |  | 1,146,785 | 4 |  | 430,996 |
| 79 | 20 |  | 1,984,083 |  |  |  |
| 80 | 17 |  | 1,605,643 | 2 |  | 183,012 |
| 81 | 10 |  | 994,755 | 3 |  | 240,232 |
| 82 | 15 |  | 1,493,066 |  |  |  |
| 83 | 11 |  | 1,106,782 | 2 |  | 47,063 |
| 84 | 12 |  | 1,175,022 |  |  |  |
| 85 | 7 |  | 796,933 | 2 |  | 160,453 |
| 86 | 10 |  | 1,024,802 |  |  |  |
| 87 | 10 |  | 955,288 | 1 |  | 104,422 |
| 88 | 4 |  | 391,044 | 1 |  | 103,503 |
| 89 | 3 |  | 310,012 |  |  |  |
| 90 | 5 |  | 469,372 |  |  |  |
| 91 | 2 |  | 200,016 |  |  |  |
| 92 | 5 |  | 470,129 |  |  |  |
| 93 | 4 |  | 372,235 |  |  |  |
| 94 | 2 |  | 198,674 | 1 |  | 101,350 |
| 95 |  |  |  | 1 |  | 91,935 |
|  |  |  |  |  |  |  |
| Total | 365 | \$ | 38,724,986 | 73 | \$ | 7,054,185 |

## Appendix C (continued)

Table 7
The Number And Annual Retirement
Allowances Of Beneficiaries Distributed
By Age As Of June 30, 2016
Disability Retirements

| Age | Men |  |  | Women |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  | Amount | Number |  |  |
| 60 |  |  |  | 1 | \$ | 115,531 |
| 66 | 1 | \$ | 124,922 |  |  |  |
| 68 |  |  |  | 1 |  | 123,750 |
| 69 | 1 |  | 123,750 |  |  |  |
| 71 | 1 |  | 123,750 |  |  |  |
| 73 | 1 |  | 111,746 |  |  |  |
| 96 | 1 |  | 95,115 |  |  |  |
|  |  |  |  |  |  |  |
| Total | 5 | \$ | 579,283 | 2 | \$ | 239,281 |

## Appendix C (continued)

Table 8

The Number And Annual Retirement Allowances Of Beneficiaries Distributed
By Age As Of June 30, 2016
Active Members' Death Benefits

| Age | Men |  |  | Women |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Amount |  | Number | Amount |  |
| 62 | 1 | \$ | 102,094 | 1 | \$ | 66,012 |
| 74 |  |  |  | 1 |  | 39,704 |
| 77 | 1 |  | 34,807 |  |  |  |
| 79 |  |  |  |  |  |  |
| 80 |  |  |  | 3 |  | 99,266 |
| 81 |  |  |  | 2 |  | 69,737 |
| 82 |  |  |  | 1 |  | 33,783 |
| 83 |  |  |  | 2 |  | 67,285 |
| 85 |  |  |  | 2 |  | 66,353 |
| 87 |  |  |  | 2 |  | 61,673 |
| 92 |  |  |  | 1 |  | 33,783 |
|  |  |  |  | 1 |  | 27,915 |
|  |  |  |  |  |  |  |
| Total | 2 | \$ | 136,901 | 16 | \$ | 565,511 |

## Appendix C (continued)

Table 9

The Number And Annual Retirement
Allowances Of Retired Members Distributed
By Age As Of June 30, 2016
Retired Members' Death Benefits

| Age | Men |  |  | Women |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  | Amount | Number |  |  |
| 19 |  |  |  | 1 | \$ | 19,081 |
| 49 | 1 | \$ | 21,252 |  |  |  |
| 62 | 1 |  | 19,082 | 1 |  | 39,628 |
| 64 |  |  |  | 2 |  | 164,967 |
| 65 |  |  |  | 3 |  | 139,075 |
| 66 |  |  |  | 2 |  | 137,315 |
| 67 |  |  |  | 1 |  | 128,955 |
| 68 | 1 |  | 11,761 | 4 |  | 196,466 |
| 69 |  |  |  | 3 |  | 200,800 |
| 70 |  |  |  | 3 |  | 158,701 |
| 71 |  |  |  | 3 |  | 143,632 |
| 72 |  |  |  | 6 |  | 492,814 |
| 73 |  |  |  | 2 |  | 80,711 |
| 74 | 1 |  | 41,250 | 7 |  | 593,230 |
| 75 | 1 |  | 43,239 | 4 |  | 337,923 |
| 76 |  |  |  | 5 |  | 366,106 |
| 77 |  |  |  | 1 |  | 114,313 |
| 78 | 1 |  | 44,093 | 3 |  | 187,467 |
| 79 |  |  |  | 6 |  | 345,099 |
| 80 |  |  |  | 6 |  | 319,709 |
| 81 |  |  |  | 4 |  | 219,958 |
| 82 |  |  |  | 5 |  | 281,967 |
| 83 |  |  |  | 5 |  | 186,849 |
| 84 |  |  |  | 4 |  | 251,457 |
| 85 |  |  |  | 5 |  | 363,121 |
| 86 | 2 |  | 108,339 | 1 |  | 41,250 |
| 87 |  |  |  | 6 |  | 257,406 |
| 88 |  |  |  | 3 |  | 90,686 |
| 89 |  |  |  | 10 |  | 469,133 |
| 90 |  |  |  | 7 |  | 352,956 |
| 91 |  |  |  | 1 |  | 35,250 |
| 92 |  |  |  | 6 |  | 223,163 |
| 93 |  |  |  | 4 |  | 246,249 |
| 94 |  |  |  | 1 |  | 34,291 |
| 95 |  |  |  | 1 |  | 33,783 |
| 96 |  |  |  | 2 |  | 53,729 |
| 97 |  |  |  | 1 |  | 30,139 |
| 98 |  |  |  | 3 |  | 95,618 |
| 100 |  |  |  | 1 |  | 28,171 |
| 104 |  |  |  | 1 |  | 42,933 |
|  |  |  |  |  |  |  |
| Total | 8 | \$ | 289,016 | 134 | \$ | 7,504,101 |

## Appendix C (continued)

Table 10

The Number And Annual Retirement
Allowances Of Retired Members Distributed
By Age As Of June 30, 2016
Deferred Terminated Vesteds

| Age | Men |  |  | Women |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Amount |  | Number | Amount |  |
| 54 |  |  |  | 1 | \$ | 39,875 |
| 55 |  |  |  | 1 |  | 66,000 |
| 57 | 1 | \$ | 56,375 |  |  |  |
| 71 | 1 |  | 21,250 |  |  |  |
|  |  |  |  |  |  |  |
| Total | 2 | \$ | 77,625 | 2 | \$ | 105,875 |

